

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
28 July 2005 (28.07.2005)

PCT

(10) International Publication Number  
**WO 2005/068640 A2**

(51) International Patent Classification<sup>7</sup>: **C12N 15/86**

(74) Agent: **HALLORAN, J., Patrick**; Aventis Pasteur, Inc.,  
Discovery Drive, Swiftwater, PA 18370 (US).

(21) International Application Number:

PCT/US2004/042980

(22) International Filing Date:

23 December 2004 (23.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/532,205 23 December 2003 (23.12.2003) US

(71) Applicants (for all designated States except US): **AVEN-TIS PASTEUR, INC.** [US/US]; Discovery Drive, Swiftwater, PA 18370 (US). **THERION BIOLOGICS, INC.** [US/US]; 76 Rogers Street, Boston, MA 02142 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PARRINGTON, Mark** [CA/CA]; 1755 Steeles Avenue, Toronto, Ontario M2R 3T4 (CA). **BERINSTEIN, Neil** [CA/CA]; 1755 Steeles Avenue, Toronto, Ontario M2R3T4 (CA). **TARTAGLIA, James, T.** [CA/CA]; 1755 Steeles Avenue, Toronto, Ontario M2R 3T4 (CA). **PANICALLI, Dennis** [US/US]; 76 Rogers Street, Boston, MA 02142 (US). **GRITZ, Linda** [US/US]; 76 Rogers Street, Boston, MA 02142 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/068640 A2

(54) Title: MODIFIED KSA AND USES THEREOF

(57) Abstract: The present invention relates to a nucleic acid encoding a polypeptide and the use of the nucleic acid or polypeptide in preventing and/or treating cancer. In particular, the invention relates to improved vectors for the insertion and expression of foreign genes encoding tumor antigens for use in immunotherapeutic treatment of cancer.